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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,131	11/07/2005	Hans-Jürgen Wehner	GOTZF 146 US	4967
2555 7590 11/25/2008 KREMBLAS, FOSTER, PHILLIPS & POLLICK 7632 SLATE RIDGE BOULEVARD REYNOLDSBURG, OH 43068				
EXAMINER KIM, JOHN K				
ART UNIT 2834		PAPER NUMBER		
NOTIFICATION DATE 11/25/2008		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/531,131

Applicant(s)

WEHNER ET AL.

Examiner

JOHN K. KIM

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-15 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 13 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

1. This Office action is in response to papers filed on 10/29/2008. Amendments made to the claims and Applicant's remarks have been entered and considered.
2. Claims 1-15 are pending and are presented for examination. Claim 1 has been amended. Claim 15 has been newly added.

Response to Arguments

3. Applicant amended claim with new limitations and therefore arguments moot.
4. Applicant's arguments have been fully considered but they are not persuasive.
5. Let us discuss the claim 1, sole independent claim.
 1. *(Previously presented) A coolable housing jacket (1) for an electric motor, which is manufactured as a cast moulded part, is formed for receiving a concentric internal rotor/stator arrangement (23) together with windings and winding overhang (24) with a through-passage (3) that is symmetrical, concentric and/or coaxial with respect to a hypothetical motor axis of rotation, and which is penetrated by one or more cooling channels (2, 2a-h) to form a coolant circuit, characterised by the housing jacket (1) being an integral casting having a coating of the jacket inner faces including the channel internal walls via a cathodic dip-varnishing process.*

The claim has eight limitations as marked below.

- Claim 1. (Previously presented) A coolable housing jacket for an electric motor,
- (1) which is manufactured as a cast moulded part,
 - (2) is formed for receiving a concentric internal rotor/stator arrangement

- (3) together with windings and winding overhang
- (4) with a through-passages that is symmetrical,
- (5) concentric and/or coaxial with respect to a hypothetical motor axis of rotation,
- (6) which is penetrated by one or more cooling channels to form a coolant circuit,
- (7) characterised by the housing jacket being an integral casting
- (8) having a coating of the jacket inner faces including the channel internal walls via a cathodic dip-varnishing process.

Katsuzawa et al (US 5084642) is teaching explicitly the limitations (1), (4), (5), (6) and (7). For (2) and (3), as long as Katsuzawa teaches rotor and stator, either one has winding inherently as most of motor has winding inherently. Unless brush and commutator are included in the machine or otherwise specified, the motor has winding in stator as per principle of motor. As long as winding exist, winding overhang is inherent element. Thus, Katsuzawa teaches limitations (1)-(7) without any technical difficulties. Katsuzawa teaches all limitations for motor structure set forth in claim 1 in straight forward manner.

6. Katsuzawa only failed to teach limitation (8) 'coating with cathodic dip-varnishing process'. The examiner believes needs for coating the fluid passages is notoriously old and well known in the art for anti-corrosion. The examiner also believes cathodic (or electrical) dip vanishing (with epoxide-aminourethane addition as in claim 3) is not notoriously old but is one of known methods for the coating. As one of prior arts teaching cathodic dip-varnishing, the examiner cited Rentschler et al (US 6599351).

Rentschler is teaching a method of cathodic dip vanishing for applying the anticorrosive white pigments to a metal base for anti-corrosion. (col. 4, line 13-34; col. 5, line 9-17)

7. Most of dependent claims are covered by Katsuzawa in view of Rentschler except claims 3 and 11-12. However, claims 11-12 are considered being notoriously old and well known in the art, and therefore, it could be a subject for official notice.

Response to Amendment

8. The examiner reviewed amended claims and remarks as follows.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 1-2, 4-10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuzawa et al (US 5084642) in view of Rentschler et al (US 6599351).

As for claim 1, Katsuzawa teaches (in Figs. 1-4) a coolable housing jacket (14) for an electric motor, which is manufactured as a cast moulded part (col. 1, line 36-39), is formed for receiving a concentric internal rotor/stator arrangement (17, col. 2, line 55-56) together with windings and winding overhang (inherent for stator winding) with a through-passage (inside circle of 17) that is symmetrical, concentric and/or coaxial with respect to a hypothetical motor axis of rotation, and which is penetrated by one or more cooling channels (15a-b) to form a coolant circuit, characterised by the housing jacket (14) being an integral casting (col. 1, line 36-39).

Katsuzawa, however, failed to teach a coating of the jacket inner faces via a cathodic dip-varnishing process. In the same field of endeavor, Rentschler teaches (col. 3, line 23-25) a coating of a cathodic dip-varnishing process for applying the anticorrosive white pigments to a metal base. (col. 4, line 13-34; col. 5, line 9-17). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have a coating of the jacket inner faces including the channel internal walls via a cathodic dip-varnishing process by combining the teaching of Rentschler with that of Katsuzawa for anti-corrosion. (col. 2, line 8)

As for claim 2, Katsuzawa in view of Rentschler teaches the claimed invention as applied to claim 1 above. Rentschler further teaches (col. 4, line 5-6) characterised in that the coating thickness is between 10 .mu.m and 50 .mu.m (s being 35-40 mu.m), or

it would have been obvious to one having ordinary skill in the art at the time the invention was made preferred coating thickness, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

As for claim 4, Katsuzawa in view of Rentschler teaches the claimed invention as applied to claim 1 above. Katsuzawa further teaches (in Figs. 1-4) characterised by the manufacture of the jacket body (10) from aluminium. (col. 2, line 42-45).

As for claim 5, Katsuzawa in view of Rentschler teaches the claimed invention as applied to claim 1 above. Katsuzawa further teaches (in Figs. 1-4) characterised in that the cooling channels (15a-b) end with apertures (24 and col. 3, line 19-20) freely accessible on the outside opening on to at least a first (14) of plural housing jacket end faces (14,12).

As for claim 6, Katsuzawa in view of Rentschler teaches the claimed invention as applied to claim 5 above. Katsuzawa further teaches (in Figs. 1-4) characterised in that in a second of the housing jacket end faces (14, 12) the cooling channels (15a-b) end at a housing wall formed by casting (col. 2, line 42-45) and are thus closed in a sealing-tight manner with respect to the outside.

As for claim 7, Katsuzawa in view of Rentschler teaches the claimed invention as applied to claim 6 above. Katsuzawa further teaches (in Figs. 1-4) characterised in that the housing jacket end faces (14, 12) comprise two end faces which are remote from one another and/or parallel to one another, the cooling channels (16a-b) in the first (14)

of which end freely accessibly on the exterior, and the cooling channels (16a-b) in the second (12) of which end at a housing end wall formed by casting (col. 2, line 42-45) and are thus closed in a sealing-tight manner to the exterior.

As for claim 8, Katsuzawa in view of Rentschler teaches the claimed invention as applied to claim 6 above. Katsuzawa further teaches (in Figs. 1-4) characterised in that the second (12) housing jacket end face or end wall formed by casting (col. 2, line 42-45) abuts the remaining housing jacket body (10) in an integral manner.

As for claim 9, Katsuzawa in view of Rentschler teaches the claimed invention as applied to claim 7 above. Katsuzawa further teaches (in Figs. 1-4) characterised in that the second (12) housing end wall formed by casting (col. 2, line 42-45) is provided inside with cavities such that they form deflection chambers and/or transverse ducts (18a-b), which communicate with the cooling channels (16a-b), extend transverse to a hypothetical motor axis of rotation, and join together the channel ends and/or the deflection chambers.

As for claim 10, Katsuzawa in view of Rentschler teaches the claimed invention as applied to claim 6 above. Katsuzawa further teaches (in Figs. 1-4) characterised in that the housing jacket end face (12, 14) formed by casting (col. 2, line 42-45) and sealing the cooling channels (15a-b) has in its cast wall one or more bores (26) or other perforations (see inlets and outlets in Fig. 4, col. 3, line 19-20).

As for claim 13, Katsuzawa in view of Rentschler teaches the claimed invention as applied to claim 10 above. Katsuzawa further teaches (in Figs. 1-4) characterised in

that the bores (24) or perforations are formed as inlets or outlets (see inlets and outlets in Fig. 4, col. 3, line 19-20) for coolant and communicate with the cooling channels (15a-b), optionally via a deflection chamber and/or transverse duct (18a-b).

As for claim 14, Katsuzawa in view of Rentschler teaches the claimed invention as applied to claim 5 above. Katsuzawa further teaches (in Figs. 1-4) characterised in that at least on a first housing jacket end face (14) fixing elements (bolts, col. 3, line 21-22), are provided in order to mount a cover or an end shield (12, 14).

As for claim 15, Katsuzawa teaches (in Figs. 1-4) a coolable housing jacket (14) for an electric motor, which is manufactured as a cast moulded part (col. 1, line 36-39), is formed for receiving a concentric internal rotor/stator arrangement (17, col. 2, line 55-56) together with windings and winding overhang (inherent for stator winding) with a through-passage (inside circle of 17) that is symmetrical, concentric and/or coaxial with respect to a hypothetical motor axis of rotation, and which is penetrated by one or more cooling channels (15a-b) to form a coolant circuit, characterised by the housing jacket (14) being an integral casting (col. 1, line 36-39) within which are the cooling channels (15a-b) and transverse ducts (21-d) connecting the ends of cooling channels (15a-b) of adjacent quadrants. Katsuzawa, however, failed to teach a coating of the jacket inner faces via a cathodic dip-varnishing process. In the same field of endeavor, Rentschler teaches (col. 3, line 23-25) a coating of a cathodic dip-varnishing process. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have a coating of the jacket inner faces including the channel internal

walls via a cathodic dip-varnishing process by combining the teaching of Rentschler with that of Katsuzawa for anti-corrosion. (col. 2, line 8)

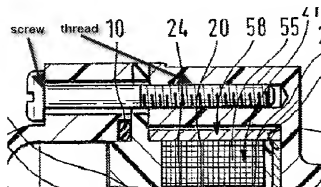
12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuzawa et al (US 5084642) in view of Rentschler et al (US 6599351) and in further view of Collong et al (US 6008314).

Katsuzawa in view of Rentschler teaches the claimed invention as applied to claim 1 above. The references, however, failed to teach characterised by the use of a dipping varnish with a basis of epoxyaminourethane, deposited by a cathophoretic process. In the same field of endeavor, Collong teaches an epoxide-aminourethane addition products as hardeners, aminourethane harder epoxide based coating media. (col. 1, line 9-15) Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Collong with those of Katsuzawa and Rentschler for multi-layer coating. (col. 1, line 9-15)

13. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katsuzawa et al (US 5084642) in view of Rentschler et al (US 6599351) and in further view of Lentz et al (US 6663362, WO01/38741).

As for claim 11, Katsuzawa in view of Rentschler teaches the claimed invention as applied to claim 10 above. The references, however, failed to teach the cooling channel characterised in that the bores or perforations have a female thread for the fixing of casting core holding elements and/or for receiving screw-type seals. In the same field of endeavor, Lentz teaches (in Fig. 1) characterised in that the bores or perforations have a female thread (see sketch below) for the fixing of casting core

holding elements and/or for receiving screw-type seals. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Lentz with those of Katsuzawa and Rentschler for reduction of parts.



As for claim 12, Katsuzawa, Rentschler and Lentz teach the claimed invention as applied to claim 11 above. Lentz further teaches (in Fig. 1) characterised in that the screw-type seals (see sketch above) are provided with sealing rings (10).

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened Statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the

statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOHN K. KIM whose telephone number is (571)270-5072. The fax phone number for the examiner where this application or proceeding is assigned is 571-270-6072. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Quyen Leung can be reached on 571-272-8188.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Quyen P Leung/
Supervisory Patent Examiner, Art Unit 2834

JK